



United States
Department of
Agriculture

Science and
Education
Administration

Agricultural Research
National Program Staff

Beltsville, Maryland
20705

April 7, 1981

SUBJECT: Future Screwworm Research Program

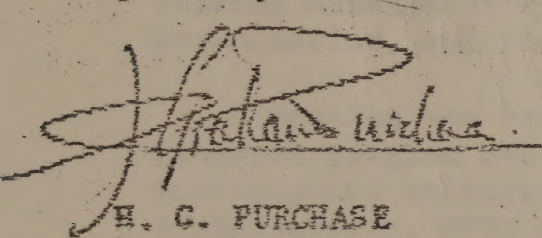
TO: P. J. Fitzgerald
RA, North Central Region

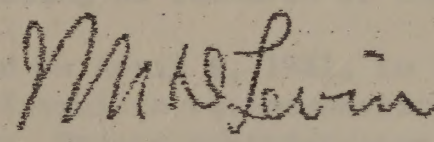
E. L. Kendrick
RA, Southern Region

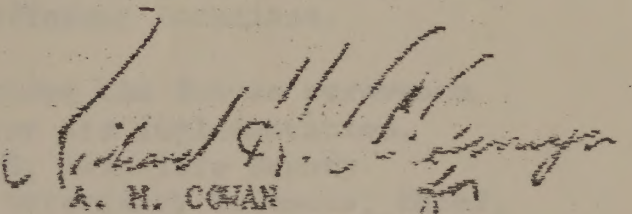
THROUGH: T. J. Army
Deputy Administrator, NPS

With the closing of the Screwworm Research Unit at Mission, Texas, a number of interrelated management decisions must be made that will affect the objectives, organization, and planning of research in support of the screwworm eradication program. Since screwworm research will not only be conducted in two different Regions, but will also cross over different National Research Programs, a meeting was held on April 6, 1981, to identify the various issues associated with the closing of the Screwworm Research Unit at Mission, Texas, and to develop unified NPS recommendations for the future screwworm research program.

Enclosed please find brief discussions of the major issues and our recommendations for their solution. We hope that these recommendations will help you to reach early decisions on the management of this high priority research activity.


H. C. PURCHASE
Acting Chief, LVS


M. D. LEVIN
Chief, CS


A. H. COWAN
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Enclosure

cc:

T. B. Kinney
R. A. Bram
W. Klassen
R. Handwerk

AIRS FACSIMILE MESSAGE	
TO: E. Taylor	PAGES: 7
FROM: Klassen	DATE: 5/15
JRT: NO:	TIME: 2:40

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4/15/81

Future Screwworm Research Program
NPS recommendations related to the closing of the
Screwworm Research Unit
Mission, Texas

Background

APHIS-VS closed their screwworm production plant at Mission, Texas, on January 15, 1981, approximately 7 months prior to the anticipated date. Consequently, it was necessary to send selected screwworm research colonies to the Metabolism and Radiation Research Laboratory, Fargo, North Dakota, and the research facility at Tuxtla Gutierrez, Mexico. Remaining screwworm research colonies were then destroyed.

According to the Five-Year Plan for Screwworm Research prepared in November 1980 (Appendix A; Five-Year Plan), when the screwworm production facility at Mission, Texas, closed, research would be shifted to Tuxtla Gutierrez, Mexico, and Fargo, North Dakota. The early closing of the Mission screwworm production facility has accelerated the implementation of these plans. Furthermore, the Research Leader of the Screwworm Research Unit, Mission, Dr. J. R. Coppedge, has announced his intention to resign from Federal service on April 17, 1981, further complicating the closing of research at Mission and the orderly transfer of personnel. Dr. E. Taylor has been assigned the responsibility of Acting Research Leader to facilitate the closedown of research at Mission.

In order to assure that research support of the eradication effort will continue without interruption during this period of transition and that a strong research capability is maintained in the future, a number of inter-related management decisions must be made that will affect the objectives, organization, and planning of research at the different locations.

A meeting was held on April 6, 1981, to consider the future screwworm research program and formulate recommendations for its implementation. Participants included: Deputy Administrator, NPS; Associate Deputy Administrator, NPS; Acting Chief, Livestock and Veterinary Sciences; Chief, Crop Sciences; National Research Program Leader, Pest Management; and National Research Program Leader, Insects Affecting Man and Animals. Issues which were identified at this meeting are outlined below, followed by the unified recommendations of the National Program Staff.

1. Closing of the Screwworm Research Unit, Mission, Texas

The current status of scientific and technical personnel at Mission, along with recommendations concerning their assignment is as follows:

<u>Name</u>	<u>Position</u>	<u>Status</u>	<u>Recommendation</u>
Coppedge	Res Leader	Will resign 4/17/81	Transfer alot to Tuxtla
Graham	Res Ent	Undergoing processing to Tuxtla (probably in August)	Transfer to Tuxtla as RL
Whitten	Res Ent	Expected to transfer to Fargo around 8/1/81	Transfer to Fargo as Screwworm Project Leader reporting to the Laboratory Director; review status in 2 years
McInnis	Res Ent	Undecided	Recommend transfer to Fargo Screwworm Project
Tannahill	Ent	Undergoing processing to Tuxtla (probably in August)	Transfer to Tuxtla
Thompson	Physi Sci Tech	On detail to Weslaco Administration	Transfer to Weslaco
Gorman	Admin Officer		Area Director consider transfer to Weslaco Central Administration when Mission closes
Garcia	Bio Tech	Screwworm rearing	Area Director and RA's consider transfer to Fargo with funds for screwworm rearing if Garcia agrees
Leal	Bio Tech	Technician	Attempt to locate appropriate position within Region without screwworm funds
Bazan	Bio Tech	Technician	"
Ramirez	Bio Tech	Technician	"
Gonzalez	Shop Tech	Shop work	"

Transfer of personnel and research activities can probably be completed before the end of FY 81 if decisions are reached in the near future. It will also be necessary to make early arrangements for the transfer of trailers and scientific equipment from Mission to Tuxtla.

2. Research Organization at Fargo

The Metabolism and Radiation Research Laboratory has been conducting screwworm research at Fargo in the Insect Physiology and Biochemistry Research Unit under NMF 20250. First quarter TUFF funds (\$275,000) were provided for renovation and construction of additional space to accommodate increased screwworm research. This renovation and construction should be completed by October 1981. When Drs. Whitten and McInnis are transferred to Fargo, there will be a sizeable increase in screwworm research activity at this laboratory.

There is a strong difference of opinion as to how this increased screwworm research effort should be organized to best support the screwworm eradication program. Although it would seem that such a decision is a local matter, the research at Fargo is intricately involved with the Tuxtla research effort and, together, they form the total research base for a highly successful and prominent eradication program. Three options have been proposed:

- A. Establish Dr. Whitten as a Screwworm Project Leader and the coordinator for all screwworm research at HHRL reporting directly to the Laboratory Director. Research being conducted by Dr. Hamrick would be continued in the Insect Physiology and Biochemistry Research Unit. Other screwworm research being conducted at Fargo would continue in the respective Research Units. This option was selected by the NPS as the most appropriate arrangement with the condition that in 2 years a thorough review be made to determine if readjustments are necessary.
- B. Establish Dr. Whitten as a Research Leader, Screwworm Research Unit, reporting to the Laboratory Director. Dr. Hamrick would be assigned to the Screwworm Research Unit while other screwworm research being conducted at Fargo would continue in the respective Research Units. This Unit would also have the responsibility of orientation of new hires before their assignment to the Tuxtla Screwworm Research Unit. After discussion, the decision was made to forego this option in favor of option A.
- C. Establish an overall screwworm Research Leader at the U.S. Livestock Insects Research Laboratory, Kerrville, Texas. Project Leaders at Tuxtla and Fargo would report administratively to this Research Leader who would coordinate the research at both locations. The NPS strongly opposed this option.

Recommendation: That Dr. Whitten be transferred to Fargo as Screwworm Project Leader reporting directly to the Laboratory Director as outlined in Option A with the addition of an orientation and training responsibility as discussed in Item 5.

3. Chemistry Research Unit

Research and quality control related to swormure and SWASS had been conducted at Mission by Dr. H. E. Brown (Research Chemist) with the assistance of Mr. P. Thompson (Physical Science Technician). With the transfer of Dr. Brown to Subtropical Products Chemistry Research, Weslaco, no professional chemist was available to supervise the quality control of SWASS production. Mr. Thompson was, therefore, detailed to Weslaco in order that professional guidance of Dr. Brown would be close at hand.

It is planned that SWASS production by AFHS will be moved to Mexico within the year. A chemist from the Screwworm Commission should be trained in quality control of SWASS so that when production is shifted, AF no longer has responsibility for quality control.

Recommendation: That Raquel Luis of the Screwworm Commission be immediately sent to Weslaco for intensive training in SWASS quality control by P. Thompson under the overall supervision of Dr. Brown.

That P. Thompson be transferred to Weslaco in order to provide chemistry research support to the screwworm program under the professional supervision of Dr. Brown. The research should be targeted for

invertebrate formulation chemistry, SWASS transport and degradation studies and other attractant studies. It will require 100% of Mr. Thompson's time and less than 10% of Dr. Brown's time for supervision.

4. Administrative Support for Tuxtla Gutierrez Location

Difficulties encountered in providing administrative support for scientists working in Mexico are best overcome by locating an administrative officer at a site near the U.S./Mexico border. Unique problems that are frequently encountered include: international mail delivery complicating communications, salary checks, etc.; permits necessary for sending scientific and other equipment into and out of locations in Mexico; and repair of vehicles and other major equipment.

Recommendation: That the Area Director consider providing suitable administrative support for the Screwworm Research Unit, Tuxtla at a location close to the U.S./Mexico border and that a person with the appropriate experience and expertise, such as Mr. Gorman, be sought.

5. Replacements for Scientists at Tuxtla

With the pending resignation of Dr. Coppedge, the problem of staffing research scientists at the Tuxtla location already exists. Then, in FY 83 it is anticipated that 4 of the 5 professionals will not renew their contracts and will have to be replaced.

Not only is it difficult to attract quality scientists to the Tuxtla location, but after an individual is identified, it requires 6 to 8 months to complete the necessary security clearances, health certifications, and other administrative requirements before an individual can actually move. In the case of research scientists already employed by AR, this does not present a serious problem because they can continue their research activities until the administrative needs are met. In the case of new hires, the most probable source of future scientists in Mexico, these individuals must be actually hired before processing can begin.

Recommendation: That new hires be sent to Fargo where, while being processed, they can begin familiarization with screwworm background literature, begin to learn research procedures with screwworm colonies, and even participate in some screwworm research projects before actually being transferred.

6. Research Support for Central America and the Caribbean

As the screwworm eradication program continues to move southward, the possibility has been raised of continuing the program through the Isthmus of Tehuantepec (the currently planned barrier zone) and eradicating screwworms from Central America with a permanent barrier zone at the Panama/Columbia border. In fact, Dr. Graham has been asked by the Inter-American Institute for Cooperation on Agriculture to participate in a feasibility study of eradication in Central America. Furthermore, requests have been received for technical advice and possible assistance from some countries of the Caribbean, notably Jamaica and Martinique.

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Recommendation: That all legitimate requests for research support in other Latin American countries be handled from the Tuxtla location. If the concept of eradication through Central America proves viable, it is recommended that a two scientist research project be established at San Jose, Costa Rica, as a satellite of the Tuxtla location in FY 84.

7. Travel Ceiling

Recognizing the serious impact that limited travel ceilings will have on screwworm research, every effort must be made to assure adequate ceiling for critical research-associated travel in Mexico.

Recommendation: That consideration be given to the assignment of all travel ceiling in Mexico to the Screwworm Research Unit, Tuxtla. Thus, research-related Mexican travel ceiling for both Tuxtla and Fargo would be apportioned on the basis of program priorities by the Research Leader at Tuxtla.

Recommended Screwworm Research Program

A. Location: Tuxtla Gutierrez, Mexico

Research Leader: O. H. Graham

Research Scientists: Peterson, Mackley, Spencer, Tanshill, vacancy

Administrative Technician: Vacancy

Budget: \$500,000 (apportion all travel ceiling for travel in Mexico)

Research Objectives:

1. Investigate the effectiveness of SWASS and bait stations in southern Mexico. *Peterson*
2. Continue to select new screwworm strains for mass rearing and assist APHIS with field evaluations of new strains.
3. Determine reasons for reduced effectiveness of swormure baited traps in southern Mexico. *Mackley*
4. Investigate the field effectiveness of a narrow genetic base strain of screwworms. *Whitten et al*
5. Investigate the seasonal incidence of screwworms in the areas of Mexico from Veracruz to Tuxtla and from Mazatlan to Tuxtla. *Spencer?*
6. Investigate population dynamics of screwworms in tropical Mexico with emphasis on natural mortality factors. *Mackley?*
7. Investigate seasonal incidence and genetic and isozyme patterns of screwworms in Mexico and Central America. *McInnis*
8. Investigate the heritability of fly size and study the effects of size on field effectiveness. *McInnis*
9. Study the population dynamics, genetic patterns, and isozyme patterns of screwworms in southern Mexico and parts of Central America. *McInnis*
10. Determine the most effective and economical way to use swormure baited traps, SWASS, and bait stations in southern Mexico and Central America. *Mackley*
11. Determine if assortive mating occurs and, if so, its effects on the eradication program. *Peterson*
12. Evaluate the field effectiveness of an all-male strain of screwworms. *Graham et al*
13. Conduct further research on the effects of larval diets on screwworm growth and development. *new hire*
14. Investigate the effectiveness of free released sterile flies (chilled fly releases). *new hire*

15. evaluate new insecticides -

RING, BRENNER, MANGAN

B. Location: Fargo, North Dakota

Project Leader reporting to the Laboratory Director and overall screwworm coordinator: J. Whitten

Research Scientists: Malenia (Hammack reports to RL of Insect Physiology and Biochemistry)

Budget: \$330,000 (\$100,000 currently supporting Dr. Hammack; \$250,000 transferred from Southern Region)

Other Duties: Train new hires for assignment to Tuxtla

Research Objectives:

1. Isolate screwworm attractants from other screwworms, bacteria associated with wounds, animal dung, and certain flowers.
2. Develop and field test an "artificial wound" as a technique for obtaining screwworm egg masses in the field.
3. Investigate accuracy of native male identification techniques and sperm identification techniques.
4. Continue development of males only strain and conduct initial field evaluations.
5. Investigate genetic isoenzyme patterns of screwworms.
6. Determine if assortive mating occurs.

C. Location: Subtropical Products Chemistry Research Unit, Weslaco, Texas

Research Leader: H. E. Brown (10% of time)

Support: P. Thompson, Physical Science Technician (100% of time)

Budget: \$30,000

Other Duties: Train Screwworm Commission chemist in quality control of SWASS

Research Objectives:

1. Develop a long lasting formulation of SWASS.
2. Improve swormlure formulation.

D. Location: Central Administrative Unit, Weslaco, Texas (or other suitable location)

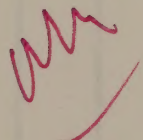
Administrative Officer: Bob Guzman or individual with suitable experience and expertise

Budget: \$50,000

Duties: Provide administrative support for the Tuxtla research location.

Screwworm Research -

- ① vehicles -
- ② close liaison w/APHIS & JOINT COMMISSION
- ③ field party advance
- ④ manuscripts -
- ⑤ procurement problems -
 - a. procurement - in U.S.
 - b. free entry permits -
 - c. shipment - frontier to Tuxtla
- ⑥ heavy travel -
per diem - high - air travel saves per diem -
- ⑦ inflation in Mexico - $\pm 30\%$ - higher for many items we use -
- ⑧ work ourselves out of a job - target Dec. 82 -
- ⑨ passports - FTA

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APPLY TO ADVANCE

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NEEDS FOR SUPPORT -

- bilingual* {
- ① specialized equipment & supplies - procurement
 - ② import permits - travel vouchers, travel checks -
 - ③ correspondence handling - TELEX, telephone comm.
 - ④ handling of MODE slot papers - use of COMAT. couriers
- ⑤ Chemistry support -
SWASS - swamure
diet
- ⑥ genetics support -
population genetics in Mexico -
- ⑦ manuscripts -
- ⑧

APPLY TO ADVANCE

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